

JUNE 6 • 7 • 8, 1986

SEA · PAC

SEASIDE • PACIFIC HAM CONVENTION

OREGON STATE HAM CONVENTION

Seaside Convention Center Seaside, Oregon



Co-Sponsored By
OREGON TUALATIN VALLEY AMATEUR RADIO CLUB
and the
NORTH COAST REPEATER ASSOCIATION

NEW! ICOM HF Transceive

IC-735



Ultra Compact

The new ICOM IC-735 is what you've been asking for...the most compact and advanced full-featured HF transcever with general coverage receiver on the market. Measuring only 3.7 inches high by 9.5 inches wide by 9 inches deep, the IC-735 is well suited for mobile, marine or base station operation.

More Standard Features

Dollar-for-dollar the IC-735 includes more standard features...FM built-in, an HM-12 scanning mic, FM, CW, LSB, USB, AM transmit and receive, 12 tunable memories and lithium memory backup, program scan, memory scan, switchable AGC, automatic SSB selection by band, RF speech processor, 12V operation, continuously adjustable output power up to 100 watts, 100% duty cycle and a deep tunable notch.

Superior Performance

It's a high performer on all the ham bands, and as a general coverage receiver, the IC-735 is exceptional. The IC-735 has a built-in receiver attenuator, preamp and noise blanker to enhance receiver performance. PLUS it has a 105dB dynamic range and a new low-noise phase locked loop for extremely quiet rock-solid reception.

Simplified Front Panel

The large LCD readout and conveniently located controls enable easy operation, even in the mobile environment. Controls which require rare adjustment are placed behind a hatch cover on the front panel of the radio. VOX controls, mic gain and other seldom used controls are kept out of sight, but are immediately accessible.



Options. A new line of accessories is available, including the AT-150 electronic, automatic antenna tuner and the switching PS-55 power supply. The IC-735 is also compatible with most of ICOM's existing line of HF accessories.

See the IC-735 at your authorized ICOM dealer. For superior performance and innovative features at the right price, look at the ultra compact IC-735.





OFFICE OF THE GOVERNOR STATE CAPITOL SALEM, OREGON 97310

June 6, 1986

As Governor of the State of Oregon, please accept my warmest welcome to beautiful Seaside and this year's

SEASIDE-PACIFIC HAM CONVENTION.

It is my belief that our pool of amateur radio operators provides valuable emergency communications and public services and it is with this thought that I wish you a very nice weekend in Seaside and on the North Coast of our great state.

Best wishes for a very successful convention.

Sincerely,

Governor

Welcome to SeaPac!

Remember—

P.R.S. Features Fine Equipment From . . .







... Super Antennas From ...









- ... And Many Terrific Accessories!
 - Consignments Welcome
 - Trades? You Bet!

Stop By For A FREE "Lid Operator" And Balloons For The Kids!

AND — Have A Great Convention!

PORTLAND RADIO SUPPLY

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Special Programs for the Ladies

Saturday, June 7, 1986

9:30 to 10:30 AM — Get Acquainted Gathering — Free Coffee and Donuts.

Location — Econo Lodge Meeting Room.

10:30 to 11:30 — Lecture "History of Seaside and Clatsop County" presented by Steve Recken, Director of Clatsop County Historical Society.

Location — Econo Lodge Meeting Room.

12:00 noon to 1:30 PM — Ladies Luncheon and Nostalgic Fashion Presentation by Ronda Johnson. Lots of door prizes. Price is \$5.75 per person.

"NOSTALGIC FASHION PRESENTATIONS"

Authentic Lingerie Fashions from 1860 - 1960

"The fashions presented are from my private collection of several hundred items," says Ronda Johnson. "Although I have always enjoyed playing 'dress-up,' I began actively collecting vintage fashions in 1974 while in Montana. My Home Economics background and professional sewing experience gave me an appreciation for this beautiful 'art form.' Preserving these garments from the past is important — sharing it with others is a pleasure! I invite you to glimpse the romantic past with a Nostalgic Fashion Presentation."

Lunch Menu:

Individual Cold Cut Plate

Potato Salad Beverage

Fresh Baked Bread

Location — Shilo Inn, Dolphin Tea Rooms #2 and #3.

2:00 PM to 4:00 PM — Lecture "Wild Flowers of the Oregon Coast" a slide and sound show presented by Neil Main. With demonstration and hands-on practice of drying flowers during second hour of program.

Sunday — June 8, 1986

9:30 to 10:30 AM — Ladies Hospitality — Free Coffee and Donuts

Location — Econo Lodge Meeting Room

Seaside Chamber of Commerce will have their Annual Women's Treasure Hunt on Saturday and Sunday. Women's tickets will be handed out on registration by the Seaside Girl Scouts.

SPECIAL EVENTS

VE TESTING

For those not pre-registered by May 7, bring an FCC Form 610 and a check for \$4.25 payable to ARRL/VEC, to the test location, Our Savior Lutheran Church, in time for the 2:00 p.m. testing session. Seating for the afternoon session is limited to space and testing materials available. Pre-registered applicants will be tested at 9:00 a.m.

QCWA LUNCHEON

Saturday, 12 Noon, Whale Rooms 1 & 2, Shiloh Inn. Speaker, Leland Smith, W5KL, National Chairman, \$5.95.

NO-HOST BREAKFAST

Sunday, 7:30 a.m. to 9:00 a.m., Seaside Elks Lodge, \$3.50.

HENRY REPORT #4

NEW!!

...RF DECKS **WITHOUT POWER** SUPPLY

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A long time need has been met. Thousands of Amateurs own power supply components, but need high quality state-of-the-art RF modules.

Here are six new models derived from our current amplifier line that will fill that need.

• 2K Classic "X" RF - *3.5 to 30 MHz

2004A RF - 420-440 MHz

• 3K Classic Mk II "X" RF - *3.5 to 30 MHz

• 3002A RF - 144-148 MHz

2002A RF - 144-148 MHz

3004A RF - 420-440 MHz

*10 meter hand deleted in U.S.

You can now have the bands you need at the price you can afford. We provide the RF deck! You provide the power supply. Let us send you a brochure providing complete technical information.

Of course, all our present model complete amplifiers are still available. This new group of RF modules simply strengthens and expands what was already the best and broadest line of Amateur power amplifiers.

Henry amateur amplitiers are available from Henry Radio and select dealers throughout the U.S. and are being exported to amateurs all over the world. In addition to our broad line of commercial FCC type accepted amplitiers we offer special RF power generators for industrial and scientific users. Call or write Ted Shannon or Mary Silva for full information.

We stock these plus many other fine names AEA • ARCO • ARRL • ASTRON • B & K • B & W • BIRD • CDE • CONNECT-SYSTEMS • CUSHCRAFT • EIMAC • . HUSTLER . HY-GAIN . ICOM . KENWOOD . LARSEN . NYE . ROBOT . TEMPO . VIBROPLEX . YAESU

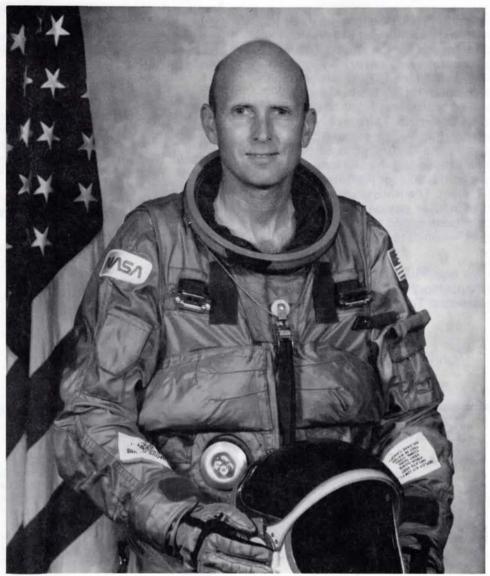


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BANQUET SPEAKER, C. Gordon Fullerton, Col., USAF



NASA Photo

Banquet Speaker and NASA Astronaut, Col. Gordon Fullerton is a former ham whose parents, Mr. and Mrs. Charles R. Fullerton, reside in Salem, Oregon. Col. Fullerton graduated from Grant High School in Portland. He went on to receive his bachelor of science and masters of science degrees in Mechanical Engineering from the California Institute of Technology.

Fullerton joined NASA in September, 1969, after receiving extensive flight training and experience through the Air Force. This included the USAF Aerospace Research Pilot School at Edwards Air Force Base followed by duty with the Aeronautical Systems Division at Wright-Patterson Air Force Base in Ohio. Along the way he logged well over 10,900 hours of flying time in 84 different

Continued

types of aircraft — everything from a T-33 to a Boeing 747!

As a fledgling NASA astronaut, Fullerton served first as a member of the astronaut support crews for the Apollo 14 and 17 missions, followed more recently by service in the Space Shuttle program. He was the pilot for STS-3 in March, 1982. the third orbital test flight of the Space Shuttle Columbia. The major test objectives for this 8-day mission included exposing the Columbia to extremes in thermal stress and the first loaded test in space of the 50-foot Remote Manipulator System. The RMS is used to grapple and maneuver payloads while in orbit. This mission added 192 hours, 4 minutes and 49 seconds to Col. Fullerton's flight time.

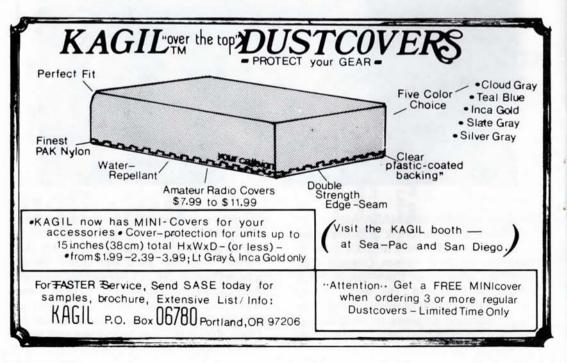
On his next mission, as commander of the Spacelab-2 (STS 51-F), Col. Fullerton assisted Tony England, WØORE, in ham radio experiments and contacts during the mission, the second time Amateur Radio has been in space. Using slow-scan TV, this was the first time that pictures had been sent from Earth to space. STS 51-F also gave him an additional 188 hours in space.

Along with speaking before groups such as ours, Col. Fullerton enjoys woodworking, photography, tennis and racquetball. He and his wife, the former Marie J. Buettner of Ohio, have two children.

Additional Banquet Speakers:

Steve Place, WB1EYI, ARRL Leland Smith, W5KL, QCWA National President

(Doors open at 6:45 p.m. for banquet)



Speaker Topic Information

Ham Radio's Role in Helping to Eliminate Traffic Jams. "Lucky" McCoy, W7LRB, will explain the National Traffic System and how it works — or, as he says, how it is supposed to work! Lucky is a colorful fellow, with an interesting past, and promises to deliver a very interesting program. As Lucky says, "Have always enjoyed traffic since day one — part of a way of life." He's good at it, and he's a good CW operator. You won't want to miss this program, as he will be both entertaining and informative.

A Review of Large Volume Traffic Handling as Generated by the Mexican Earthquake of 1985. Paul Schaff, WB7BBG, is a retired Portland area physician, and will discuss the emergency traffic and how it was handled following the Mexican Earthquake of 1985. Paul has been licensed since 1975, enjoys CW, and participates in service nets and public service. He is EC of Washington County, Oregon. His involvement with the earthquake will show you just how important it is to know emergency traffic procedures and how important these capabilities are to amateur radio's future.

Civil Air Patrol. Terri Hillgaertner will start this presentation by describing the role of the Civil Air Patrol in general terms. Grant Cochran will then elaborate on the emergency services mission of the Civil Air Patrol. Finally, Jim Schmitt, N7ELB, will provide details of the communications support, which has many parallels in the amateur radio service traffic handling system.

Portable Batteries. Byron Witt, W7VOK, will draw upon his vast experience working with various types of batteries to talk about the most popular types used in ham gear: nicads, lead acid and lithium. Some of the concerns of portable battery users which he will address are charging and discharging techniques, precautions and failure modes. Byron is a retired Tektronix component engineer and has been a ham radio operator since 1937.

Verticals, Yagi's, Double Duckies? Antennas Can Be Fun! Mark Walker, W7CLU, has been hamming for over 25 years, is a life member of ARRL and has been in electronics all his life. Mark is a very good speaker who promises to survey his audience and tailor his talk to their very needs. Mark is an exciting speaker who holds his audience and knows what he is talking about — don't miss him!

Operating the 160M Band. Bob Kile, KG7D, will start with basic information regarding the 160M band. He will cover practical antennas, frequency allocations within the band and contest activities. Bob has worked in the communications industry since he was in high school and continues to keep involved with state of the art communications equipment. He has had his ham license since 1964 and enjoys working the 160M contests. Come and let Bob help you start operating the 160M band.

DFing ELTs. Rick Kincade, WB6QHS, will familiarize the ham community with the use of ELT's (Emergency Locator Transmitters). He is president of Northwest ELT, Inc., a group which provides prompt, professional response to finding and silencing ELT's. He will tell how this group works with other local resources and uses the satellites to provide the optimum response whenever an ELT is detected. He will discuss how the need for this service is likely to grow larger as hikers, hunters, and other individuals start carrying ELT's with them. Find out what you can do if you are interested in joining this community service.

Antenna Nuts and Bolts Ideas. Kenneth Kopp, KØPP, will talk about constructing and putting up various types of antennas, their supports, and related hardware items. He

will cover coaxial cables and connectors, and even have hands-on hardware to show during the presentation. Kenneth works as a communications technician for Montana Power Company. He has been a licensed ham operator for 35 years and is very active in ARRL, holding several positions including NW Division Assistant Director. Don't miss this opportunity to get your nuts and bolts questions answered!

Basic Traffic Handling. Brad Wells, KR7L, Port Orchard, WA, will use his training in education, and his vast experience in traffic handling to show how easy and worthwhile it is to have fun handling messages. Brad is the Assistant Section Manager for Washington, and is active on the Public Relations Advisory Committee (PRAC) for ARRL.

Advanced Traffic Handling. Vic Seeberger, W7VSE, Medford, OR, will act as moderator during this fact-filled session. Vic is Oregon State Traffic Manager, and will do his darnedest to organize the ideas, requirements and suggestions coming from the panel members: Lea Ball, AL7W, former Daytime Oregon Section Net Manager; Bill Gibson, N7FXJ, current Net Manager of Daytime Oregon Section Net; Bob Roesner, WB7WOW, Daytime Region 7 Manager; and Len Bundy, K7ZIG, Oregon Section Net Manager.

How to Get More Gain From Practically Nothing. Dave Phemister, WB7ESV, will start with a historical account of how Larsen Electronics developed construction techniques for antennas. He will include a look into how gain and bandwidth can be maximized and how mounting techniques can alter antenna patterns. His talk will be accompanied by a slide presentation. A question and answer period will follow.

Sunspot Cycle 22 — What to Expect for Little Pistols and Big Guns. Rush Drake, W7RM, will take a close look at the ionosphere and how increasing sunspot activity will affect propagation on amateur frequencies in the years ahead. He will include a band by band analysis by hour of openings and bearings to the world from the northwest. He will tell how to use the hourly WWV propagation forecasts. He will describe the greyline and how to use it. He will discuss antenna design criteria for the coming cycle. Rush's presentation is based on experience obtained during five previous sunspot cycles.

Microwave Forum. John White, K7RUN, and Deane Kidd, W7TYR, will lead a free-flowing get-together of amateurs interested in the world above 450MHz. This will be an opportunity to find out who is doing what in your area or who is interested in doing something on the microwave frequencies. A signup sheet will be available for you to list your bands of interest and capabilities. Information compiled will be mailed afterwards to those who attend. Information exchange and possibly a newsletter will follow.

Getting Started on OSCAR 10. Norm Brooks, K6FO, will use a videotape which will show his 1985 Field Day OSCAR station, an on-the-air demonstration of doppler effect, time delay, use of a pre-amp, antenna polarization, oscar orbits, and tracking methods, and some typical OSCAR stations. This will be followed by a question and answer session. Norm has been associate editor of **Worldradio** for the past 14 years and may include a feature about this session in a future issue.

Antenna Basics. Roy Lewallen, W7EL, will tell why vertical antennas work better on low bands and horizontal antennas work better on high bands. He will discuss radiation angles, efficiency, baluns, phasing and more. Roy is always a favorite at SEAPAC, so don't miss this opportunity to learn some of those antenna basics!

Packet Tutorial. Budd Churchward, WB7FHC, and Peter Dahl, WA7FUS, will provide the long overdue packet radio seminar for "ordinary" people. You can finally find out what "packet" really is. You won't have to be a "computer whiz kid" to follow this Continued

presentation. Budd and Peter are both professional educators who can help you understand digital/text communication and packet radio. Both are board members of The Northwest Amateur Packet Radio Association (NAPRA) and have been involved with packet for several years. Budd has lectured to may groups and written several articles on the subject. This will be a complete tutorial and will include step by step procedures for setting up a packet station and getting it on the air. Bring paper and take notes! Many members of NAPRA will be on hand to help answer your individual questions after the presentation.

The Best Antennas for 160, 80 and 40 Meters. Ken Glanzer, K7GCO, will talk about the proper way to install the inverted V, the sloper, verticals that don't need radials and outperform those that do, and quad loops that are vertical, 45 degrees and horizontal at 0.1 wavelength off the ground. He will also cover high signal to noise ratio antennas for 160 Meter reception which hear DX that the noisy vertical can't. Ken has been giving talks on antennas since 1948 (including one at the Dayton convention earlier this year) and has over 100 articles printed since his first in 1950.

One Knob Antenna Tuner Update. Last year Ken Glanzer, K7GCO, described a one knob antenna tuner. Whether you attended that seminar or not, you won't want to miss this update. He will show you how he has improved upon the tuner which will allow you to tune a 80 Meter vertical or dipole all across the band with "one reactor" and less than 1.5:1 SWR. He will also tell you how to grid dip coax to resonant length. There are many applications for this and he will have a fully descriptive handout available for those who are interested. This will be another one of Ken's informative sessions and he is always ready to hear from anyone with new ideas.

A Beginners's Guide to Operation of Ham Gear. Dee Lynch, KA7NPN, will cover the general operation of a typical amateur radio station. It is directed to the new amateur or the person who is just interested in what is going on in amateur radio. The session will include visual and audio/visual demonstrations. He will allow ample time to answer your specific questions.

10 GHz SSB Communications. Tom Hill, WA3RMX, will tell what it takes to start operating on 10 GHz. There has been much pioneering work done recently to bring narrowband modes (SSB/CW) to the amateur microwave bands. Tom will tell how he built a 10368 MHz system using surplus gear. He will cover what distances are achievable and what power levels are required.

Antenna and Sattelite Dish Installation. Stan Griffiths, W7NI, also known as "Stanley Ham", will present a slide show guaranteed to be interesting. Topics include the FCC monitoring station at Ferndale, WA, assembly tips on installing your own 50 ft. diameter EME dish, and photographic tours of some large antenna installations, including W7FU and W7RM.

Belize DXpedition. Bob Smith, NA6T, and Mark Nelson, AA6DX, will take you on a whirlwind narrated slide presentation of a contest/DXpedition based on an island off the coast of British Honduras, now called Belize. The contest was the November, 1984 CQ Worldwide DX Contest and the group involved had the call of V30AA. Remember? The program will be enhanced with Belize-style background music, provided by Sue Benson, N7EPE, who was part of the contest effort and, time permitting, a few words from AI Berg, WB7SIC, SeaPac Co-Chairman, who was also on the trip. Mark and Bob have been top grade contesters and DX'ers for many years and some of their efforts have been from far away places like Christmas Island and Midway. If you like contesting, armchair travel or just great entertainment, this session is for you. There will be plenty of time for Q & A after the presentation.

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REGISTRATION BADGES

All committee members, and this includes the chairmen of the convention, are required to register. As such, we also ask that everyone else in attendance be registered. Please wear your registration badge while in the convention center. By doing so, you can help us avoid embarrassing confrontations at the extrance gate. Lost or forgotten badges are a source of grief to us and, worse, to you. We would like to see no problems and, quite surely, neither do you. Thanks, in advance, for your co-operation.





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COD'S WELCOME!

SeaPac 1986 Schedule of

CONVENTION CENTER

Mariner Room

- Mark Walker, W7CLU

Portable Batteries - Byron Witt, W7VOK

10:30

12:30

Dolphin Room

		Wallier Room	Bolphin Room
Friday, June 6 P.M.		Ham Radio's Role in Helping to Eliminate Traffic Jams - Lucky McCoy, W7LRB A Review of Large Volume Traffic Handling as Generated by the Mexican Earthquake of 1985 - Paul Schaff, WB7BBG	
Saturday June 7	/, 9:30	Sunspot Cycle 22 — What to Expect for	Repeater Advocacy Group
	10:30	Little Pistols and Big Guns - Rush Drake, W7RM Antenna Basics - Roy Lewallen, W7EL	Joint ORRC and WWARA Meeting
Saturday June 7	12:00 /,	Lunch Break QCWA: Shilo Inn, Whale	Rooms 1 & 2; YL: Shilo Inn, Dolphii
P.M.	1:00 2:00 2:30	Civil Air Patrol - Terri Hillgaertner, Grant Cochran and Jim Schmitt, N7ELB A Beginner's Guide to Operation of Ham	Annual ORRC General Membership Meeting Assorted Short Video Programs
	4:00	Gear - Dee Lynch, KA7NPN ARRL FORUM	
Sunday June 8		Exhibits Close. Banquet room op	pens, 6:45; Banquet at 7:00
A.M.	9:30	Verticals, Yagis, Double Duckies? Antennas Can Be Fun!	

Prize Drawing, Main Exhibit Room. Convention Closes, 2:00 P.M.

Seminars and Activities

SHILO INN

Whale 3

Dolphin 1

Other Activities

Registration, Exhibits Open, 5-8

Convention Center Closes, 9:00

e Best Antennas for 160, 80 & 40 Meters (en Glanzer, K7GCO

w to Get More Gain From Practically thing Dave Phemister, WB7ESV 10 GHz SSB Communications - Tom Hill, WA3RMX

Microwave Forum John White, K7RUN 9:00 VE Exams, Pre-registered, only. Our Savior Lutheran Church

Registration, Exhibits Open, 9-4:30

Kids Krayons & Kartoons Open 9-4:30

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- Budd Churchward, WB7FHC and Peter Dahl, WA7FUS

DFing ELT's
- Rick Kincade, WB6QHS

2:00 VE Exams Walk-ins only; Our Saviour Lutheran Church

e Knob Antenna Tuner Update en Glanzer, K7GCO

ge Antenna Installations and Satellite hes

tan Griffiths, W7NI

Antenna Nuts and Bolts Ideas - Kenneth Kopp, KOPP

Operating The 160 Meter Band - Bob Kile, KG7D No-Host Breakfast 7:30, Seaside Elks Lodge

Registration, Exhibits, Kids Krayons & Kartoons Open 9-12



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Maximum Power50 Watts.

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 Selected design projects that involve something interesting, new, and different.

Right now it's full-wave loop antennas, minimum space:

The DX Hidden Asset, for those stations where a visible antenna is taboo. 50-ohm feed, direct from coax, omnidirectional and very broad-banded.

The II DX Directional Antenna, compact, broad-band, gain about 5dBd, deep nulls; 50-ohm feed. Radiation pattern can be set for bi-directional, maximum gain, or maximum F/B ratio.

- Also, there's a patented mobile antenna mount:

 The DX Quickshift Antenna Mount, Patent # 4,538,155, to let you raise or lower your antenna in a one-hand operation, out the driver's window. Mounts on roof or side wall. Still a few available at the old price, but we're not geared up to be manufacturers at the expense of cutting out time for design and experimentation. We will consider license or purchase offers.
- WHY is H. STEWART DESIGNS at SEA-PAC?

 To show you samples, discuss them and learn from you, enjoy the experience, and maybe sell something.
- HOW do I find H. STEWART DESIGNS?
 We'll have a booth at SEA-PAC, and we welcome all correspondence.

See you at SEA-PACI

PRIZE DRAWING INFORMATION

MAIN PRIZE DRAWING

Need Not Be Present To Win

YAESU FT-980 HF Txcvr. KENWOOD TM-2570/A 2m. Mobile ICOM 3200 A 2m./450 Dual Bander AEA PAKRATT KENWOOD TR-2600 2m. HT YAESU FT-203 2m. HT KENWOOD TH 21-AT 2m. HT

EARLY BIRD

(Your Choice of One)

KENWOOD TH 21-AT MIRAGE B-108 2m. Amp YAESU FT-203 2m. HT

HOURLY PRIZES

Posted in the lobby and on stage for two hours.

(Unclaimed prizes will be redrawn)

BANQUET

Two nights for two at a Red Lion of your choice. Includes two breakfasts, one lunch and a dinner.

(Gift Certificate)

Hourly Drawings

Winning numbers will be posted on-stage as well as in the lobby. The numbers will remain posted for two hours to enable those of you attending seminars the time to see if luck is with you. Prizes not claimed after two hours will be redrawn later. Winners please collect your prize in the Prize Room. The hourly giveaways are donated at no cost to the convention committee. We all may express our personal thank you to the commercial exhibitors by telling them so.

Early Bird Prize

The early bird prize is a courtesy in appreciation to those who have registered in advance of opening day. Quite a large amount of money is required, early on, to pay the advertising and printing costs. Early registrants are benefactors to any event of this kind and a reward is fitting. Good luck to our 'early birds.'

Banquet Prize

This prize is available to those who attend and pay for the dinner. The drawing is a special incentive provided by both the donor and convention committee. It is a fitting finale to an entertaining evening.

Major Prize Drawing

You need not be present to win!! If you are a winner, your prize will be shipped to you. We will attempt to keep the drawing time to one hour. Major prizes are obtained at cost, or below, from the dealers and manufacturers and we take this opportunity to express our appreciation.

GOOD LUCK TO YOU ALL!

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KAGIL
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Portland Radio Supply
Smiley Antenna Co.
Trio-Kenwood
ULC Discount
Vagabond Sales
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Note: All registrants, including convention sponsors, are eligible for prize drawings and/or contest awards.

Note: Due to publication deadlines, we apologize if there are any prize donors not included in the above listing.

Now that you've seen this book, ...

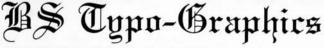
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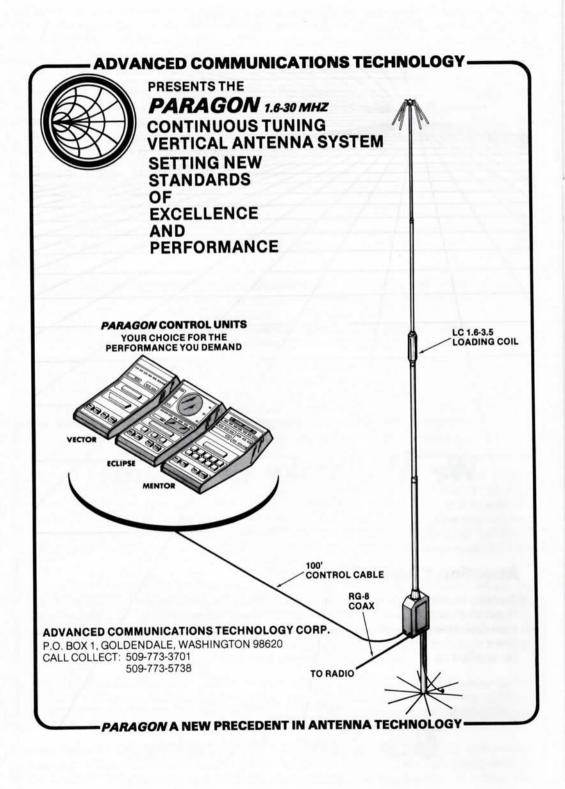
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THINGS TO SEE & DO

Astor Column, Astoria.

Columbia Lightship. Moored at the Coast Guard Pier at the foot of 16th, Astoria.

Maritime Museum. 17th and Marine Drive, Astoria.

Fort Astoria. 15th & Exchange, Astoria.

Flavel House. Clatsop County Historical Society, 8th & Exchange, Astoria.

Astoria Bridge. A part of U.S. Highway 101, joins Washington and Oregon.

Battery Russell. Fort Stevens State Park.

Peter Iredale. Fort Stevens State Park.

Fort Clatsop. Museum, movie, tour replica of the fort, canoe landing and ranger demonstration.

Salt Cairn. Lewis and Clark Way, Seaside.

Seaside Aquarium. 2nd Ave. & Prom, Seaside.

Turnaround. End of the Lewis & Clark Trail. End of Broadway, Seaside.

Tillamook Rock Lighthouse. Island off Tillamook Head, best viewed from the point at Ecola State Park, Cannon Beach.

Haystack Rock. Third largest monolith, located in Cannon Beach.

Ecola State Park. Beautiful view of Haystack Rock and Tillamook Rock Lighthouse.

Oswald West State Park & Short Sand Beach. Highway 101 South.

Nehalem Winery. Highway 101 South.

Tillamook Cheese Factory. Tillamook.

Tillamook Museum. Tillamook.

FREQUENCY COUNTER... AMAZING NEW 10HZ-1.3GHZ

ARE YOU ON FREQUENCY?

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ALL METAL CASE MADE IN THE U.S.A. 5 YR LIMITED WARRANTY

MODEL CIADO DATASCAN IOHZ-I.4GHZ FREQUENCY COUNTER 0

STRIP LINE AMP AUTOMATIC LEVELING

18 DB

SMV@ 150MHZ TYP. 10MHZ TO 1.3GHZ

10HZ RESOLUTION TO 1.3GHZ TOUCH STEP CONTROLS **10HZ TO 10MHZ**

AUTOMATIC DECIMAL POINT

LEADING ZERO BLANKING 1 PPM TCXO TIME BASE 1HZ RESOLUTION TO 10MHZ

8 LARGE 1/2" LED READOUTS

7 Segment LED 7 Segment LED 8 Digit TYPE 8 Digit RESOLUTION 10MHz 1Hz 10Hz 인 문 6 10Hz RESOLUTION 960MHz 10MHz 10MHz 1 Meg Dir Opt. Micad INPUTS 500 Pre 1 BNC 2BNC 11-18 VDC 11-18 VDC 8 AA Dry 117VAC POWER REQ. 117VAC

> All Metal TYPE-SIZE

CASE

C900

9660Ls

1 PPM TCXO 25 MV

50 MV

75 MV

SHOW PRICE

MODEL

SHOW PRICE

SUGGESTED

TIME BASE ACCURACY

150MHz 440MHz 850MHz

SENSITIVITY TYP.

SEE C.S

5 MV

15 MV

< 50 MV @ 1300MHz

20 MV

8 Digit

1 모

10MHz

10MHz

1400MHz

Nicad Pk Optiona

8

500 Pre

2x6x5

\$1**59**95

SHOW PRICE

\$12995

1 PPM TCXO

15 MV

25 MV

35 MV

10MHz

1200MHz

1 Meg Dir

Cell Batt

All Meta

Shielded

Shielded

Holder

(17°-40°C)

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The North Coast Repeater Association and the Oregon Tualatin Valley Amateur Radio Club

would like to take this opportunity to thank the many hard working individuals who have made the convention a success.

A special thanks to all of the clubs in the Pacific Northwest that were of such great help in advertising the convention.

We are deeply grateful to our many exhibitors for showing us their products. Without them, this would not have been a successful convention.

Until next year...
73 & 88's

Al Berg WB7SIC
Doc McLendon W7GWC

Have a Safe Trip Home



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SSB, CW, AM, FM, digital VFO's, 10 memories, memory/ band scan, optional 118 – 174 MHz coverage...

The R-2000 is an innovative all-mode SSB, CW, AM, FM receiver that covers 150 kHz-30 MHz, with an optional VC-10 VHF converter unit to provide coverage of the 118-174 MHz frequency range.

R-2000 FEATURES:

- Covers 150 kHz-30 MHz in 30 bands. UP/ DOWN band switches. VFO's tune across 150 kHz-30 MHz.
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- Ten memories store frequency, band, and mode data. Each memory may be tuned as a VFO. Original memory frequency may be recalled.
- · Lithium batt, memory back-up, (Est. 5 yr, life).
- Memory scan. Scans all or selected memories.
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• 200 kHz – 30 MHz • digital display/clock/
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